Claims

I claim:

1. A method of drilling a directional or horizontal wellbore in a hydrocarbon formation, comprising the steps of:

providing a concentric coiled tubing drill string having an inner coiled tubing string, said inner coiled tubing string having an inside wall and an outside wall and situated within an outer coiled tubing string having an inside wall and an outside wall, said outside wall of said inner coiled tubing string and said inside wall of said outer coiled tubing string defining an annulus between the coiled tubing strings;

connecting a bottomhole assembly comprising a directional drilling means to said coiled tubing string drill string; and

delivering drilling medium through one of said annulus or inner coiled tubing string for operating said directional drilling means to form said directional or horizontal wellbore and removing exhaust drilling medium by extracting said exhaust drilling medium through said other of said annulus or inner coiled tubing string.

2. The method of claim 1 wherein the drilling medium is delivered through the annulus and the exhaust drilling medium is extracted through the inner coiled tubing string.

3. The method of claim 1 wherein the drilling medium is delivered through the inner coiled tubing string and the exhaust drilling medium extracted through the annulus.

4. The method of claim 1 wherein said exhaust drilling medium comprises drilling medium and drilling cuttings.

5. The method of claim 1 wherein said exhaust drilling medium comprises drilling medium, drilling cuttings and hydrocarbons.

6. The method of claim 1 wherein said directional drilling means is a reverse circulating directional drilling means.

7. The method of claim 1 wherein said drilling medium is selected from the group comprising drilling mud, drilling fluid and a mixture of drilling fluid and gas.

8. The method of claim 7 wherein said directional drilling means comprises a positive displacement motor, a reverse circulating drill bit and a bent sub or housing.

9. The method of claim 7 wherein said directional drilling means comprises a mud motor, a rotary drill bit and a bent sub or housing.

10. The method of claim 9 wherein said mud motor is a reverse circulating mud motor.

11. The method of claim 1 wherein said drilling medium comprises a gas selected from the group comprising air, nitrogen, carbon dioxide, methane or any combination of air, nitrogen, carbon dioxide or methane.

12. The method of claim 11 wherein said directional drilling means comprises a reciprocating air hammer, a drill bit and a bent sub or housing.

13. The method of claim 12 wherein said reciprocating air hammer is a reverse circulating reciprocating air hammer.

14. The method of claim 1 wherein said directional drilling means comprises a positive displacement motor, a reverse circulating drill bit and a bent sub or housing.

15. The method of claim 1, said directional drilling means further comprising a diverter means, said method further comprising the step of accelerating said exhaust drilling medium by passing said exhaust drilling medium through said diverter means so as to facilitate extraction of said exhaust drilling medium through the annulus or

the inner coiled tubing string.

16. The method of claim 15 wherein said div rter means comprises a venturi or a fluid pumping means.

17. The method of claim 1 further comprising the step of providing a downhole flow control means positioned at or near the directional drilling means for preventing flow of hydrocarbons from the inner coiled tubing string or the annulus or both to the surface of the wellbore.

18. The method of claim 17 further comprising the step of controlling said downhole flow control means at the surface of the wellbore by a surface control means.

19. The method of claim 18 wherein said surface control means transmits a signal selected from the group comprising an electrical signal, a hydraulic signal, a pneumatic signal, a light signal or a radio signal.

20. The method of claim 1 further comprising the step of providing a surface flow control means positioned at or near the surface of the wellbore for preventing flow of hydrocarbons from a space between the outside wall of the outer coiled tubing string and a wall of the borehole.

21. The method of claim 1, said concentric coiled tubing drill string further comprising a discharging means positioned near the top of said concentric coiled tubing drill string, said method further comprising the step of removing said exhaust drilling medium through said discharging means away from said wellbore.

22. The method of claim 21 wherein said discharging means further comprises a flare means for flaring hydrocarbons produced from the wellbore.

23. The method of claim 1 further comprising the step of providing a shroud means positioned between the outside wall of the outer coiled tubing string and a

wall of the wellbore for reducing the flow of exhaust drilling medium from the directional drilling means to a space between the outside wall of the outer coiled tubing string and a wall of the borehole.

24. The method of claim1 further comprising the step of providing a suction type compressor for extracting said exhaust drilling medium through said annulus or inner coiled tubing string.

25. The method of claim 1 further comprising the step of reducing the surface pressure in the inner coiled tubing string by means of a surface pressure reducing means attached to the inner coiled tubing string.

26. The method of claim 1 further comprising the step of providing an orientation means for rotating said directional drilling means.

27. The method of claim 1 further comprising the step of providing a downhole data collection and transmission means for giving drilling associated parameters.

28. The method of claim 27 wherein said downhole data collection and transmission means comprises a measurement-while-drilling tool or a logging-while-drilling tool or both.

29. The method of claim 1 further comprising the step of providing an interchange means for directing said exhaust drilling medium through said annulus or inner coiled tubing string.

30. An apparatus for drilling a directional or horizontal wellbore in a hydrocarbon formation, comprising:

a concentric coiled tubing drill string having an inner coiled tubing string, said inner coiled tubing string having an inside wall and an outside wall and situated within an outer coiled tubing string having an inside wall and an outside wall, said outside wall of said inner coiled tubing string and said inside wall of said outer coiled tubing string defining an annulus between the coiled

tubing strings;

a bottomhole assembly comprising a directional drilling means operably attached to said concentric coiled tubing drill string; and

a drilling medium delivery means for delivering drilling medium through one of said annulus or inner coiled tubing string for operating said directional drilling means to form said directional or horizontal wellbore and removing exhaust drilling medium by extracting said exhaust drilling medium through said other of said annulus or inner coiled tubing string.

31. The apparatus of claim 30 wherein said directional drilling means is a reverse circulating directional drilling means.

32. The apparatus of claim 30 wherein said directional drilling means comprises a positive displacement motor, a reverse circulating drill bit and a bent sub or housing.

33. The apparatus of claim 30 wherein said directional drilling means comprises a mud motor, a rotary drill bit and a bent sub or housing.

34. The apparatus of claim 33 wherein said mud motor is a reverse circulating mud motor.

35. The apparatus of claim 30 wherein said directional drilling means comprises a reciprocating air hammer, a drill bit and a bent sub or housing.

36. The apparatus of claim 35 wherein said reciprocating air hammer is a reverse circulating reciprocating air hammer.

37. The apparatus of claim 30 wherein said directional drilling means comprises a positive displacement motor, a reverse circulating drill bit and a bent sub or housing.

38. The apparatus of claim 30 wherein said directional drilling means further comprising a diverter means to facilitate removal of said exhaust drilling medium from the concentric coiled tubing drill string.

39. The apparatus of claim 38 wherein said diverter means comprises a venturi or a fluid pumping means.

40. The apparatus of claim 30 further comprising a downhole flow control means positioned at or near said directional drilling means for preventing flow of hydrocarbons from the inner coiled tubing string or the annulus or both to the surface of the wellbore.

41. The apparatus of claim 40 further comprising a surface control means for controlling said downhole flow control means at the surface of the wellbore.

42. The apparatus of claim 41 wherein said surface control means transmits a signal selected from the group comprising an electrical signal, a hydraulic signal, a pneumatic signal, a light signal or a radio signal.

43. The apparatus of claim 30 further comprising a surface flow control means positioned at or near the surface of the wellbore for reducing flow of hydrocarbons from a space between the outside wall of the outer coiled tubing string and a wall of the borehole.

44. The apparatus of claim 30 wherein said concentric coiled tubing drill string further comprises a discharging means positioned near the top of said concentric coiled tubing drill string for discharging said exhaust drilling medium through said discharging means away from said wellbore.

45. The apparatus of claim 44 wherein said discharging means further comprises a flare means for flaring hydrocarbons produced from the wellbore.

46. The apparatus of claim 30 further comprising a shroud means positioned between the outside wall of the outer coiled tubing string and a wall of the wellbore for reducing the flow of exhaust drilling medium from the directional drilling means to a space between the outside wall of the outer coiled tubing string and a wall of the

borehole.

47. The apparatus of claim 30 further comprising a suction type compressor for extracting said exhaust drilling medium through said annulus or inner coiled tubing string.

48. The apparatus of claim 30 further comprising a connecting means for connecting said outer coiled tubing string and said inner coiled tubing string to said directional drilling means thereby centering said inner coiled tubing string within said outer coiled tubing string.

49. The apparatus of claim 48 further comprising a disconnecting means located between said connecting means and said directional drilling means for disconnecting said directional drilling means from said concentric coiled tubing drill string.

50. The apparatus of claim 35 further comprising a rotation means attached to said reciprocating air hammer.

51. The apparatus of claim 30 further comprising means for storing said concentric coiled tubing drill string.

52. The apparatus of claim 51 wherein said storing means comprises a work reel.

53. The apparatus of claim 30 wherein said exhaust drilling medium comprises drilling medium and drilling cuttings.

54. The apparatus of claim 30 wherein said exhaust drilling medium comprises drilling medium, drilling cuttings and hydrocarbons.

55. The apparatus of claim 30 further comprising an orientation means for rotating said directional drilling means.

56. The apparatus of claim 30 further comprising a downhole data collection and

transmission means for conferring drilling associated parameters.

57. The apparatus of claim 56 wherein said downhole data collection and transmission means comprises a measurement-while-drilling tool or a logging-while-drilling tool or both.

58. The apparatus of claim 30 wherein said bottomhole assembly further comprises one or more tools selected from the group consisting of a downhole data collection and transmission means, a shock sub, a drill collar and an interchange means for directing said exhaust drilling medium through said annulus or inner coiled tubing string.